REMARKS

No amendments to the claims have been presented at this time.

Claims 32-61 have been allowed.

Claims 5-15, 20, 21, 23, 24, 26, 29 and 30 were objected to as being dependent on a rejected base claim.

Claims 1, 16 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rahamin in view of Hiyoshi. Applicant respectfully traverses.

The Examiner correctly concedes that Rahimin fails to teach or suggest the hybrid operating to perform a filtering functionality which filters signals received from the telecommunications line at frequencies that fall outside of a certain range. In support of the Section 103 rejection, the Examiner relies on the teachings of the Hiyoshi reference. More specifically, the Examiner points to Hiyoshi Figure 9 and a low pass filter provided in the power source circuit 510. See, Hiyoshi, col. 17, line 57 to col. 18, line 61.

Applicant respectfully submits that the Examiner has misread the teachings of Hiyoshi with respect to the Figure 9 power source circuit 510. Hiyoshi teaches that the circuit 510 operates as a constant voltage circuit when DC is applied from the photocoupler 13 and operates as a constant current circuit when AC is applied from the photocoupler 13. The reason this difference in operation is important is that the circuit 510 must maintain a set DC potential at the photocoupler output at all times so as to allow a maximum swing in the AC output signal between ground and Vcc. Responsive to a DC signal, the transistors 511 and 512 set the DC potential at midway between ground and Vcc. The power source circuit 510 further includes a low pass filter (thus allowing the DC operation to set the DC potential) but blocking AC components present at the photocoupler 13 output from changing the DC potential value set by the transistors 511 and 512. In other words, the power source circuit 510 is designed to operate in the presence of applied DC to set the DC potential of the photocoupler and further ignore, through the low pass filter, the presence of AC components which would otherwise cause shifting in the set DC potential value.

Applicant asserts that the Examiner must read the claimed filtering or canceling signals "received from the communications line" limitation of claims 1 and 16 in context with the other recited claim limitations. In this regard, claims 1 and 16 further include a limitation relating to the filtering operation canceling signals "from appearing at the receiver input." The low pass filter of the power source circuit

510, while operating to filter AC signals, does not operate to filter and thus prevent (or cancel) those signals from appearing at the terminal G receiver input. Rather, all of the AC components for the signal at the photocoupler 13 output are connected to terminal G for output to the receiver. The low pass filter in the circuit 510 merely filters the AC signals so that they do not adversely affect operation of the circuit 510 in setting the DC potential value of the photocoupler 13. This low pass filter circuit thus does not filter/cancel and prevent the AC signals on the photocoupler 13 (i.e., the received signals from the communications line) from appearing at the receiver input (i.e., terminal G) as is specifically claimed. In fact, any such effect would be contrary to the point of the Hiysohi circuit 510 which is designed to allow the full AC signals present at the input of the photocoupler 13 to swing rail to rail and be provided as the output received signal at terminal G (at the output of the photocoupler). There is no teaching or suggestion in Hiyoshi for the circuit 510 operating in any way to filter/cancel the received AC signals and thus prevent some frequency components (i.e., the claimed "frequencies that fall outside of a predetermined frequency range" of claim 1 and "signals at predetermined frequencies" of claim 16) of those signals from reaching terminal G (i.e., the claimed "from appearing at the receiver input" of claims 1 and 16).

In view of the foregoing, Applicant respectfully submits that Claims 1, 16 and 22 define over the cited art and are in condition for favorable action and allowance.

Claims 2-4 and 17-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rahimin in view of Hiyoshi and Gilbert. For at least the reasons recited above with respect to claims 1 and 16, Applicant asserts that claims 2-4 and 17-19 are patentable over the art of record.

Claim 25 was rejected under 35 U.S.C 103(a) as being unpatentable over Hiyoshi in view of Wortman. Applicant respectfully traverses.

The Examiner refers to Hiyoshi Figure 5 as teaching a hybrid circuit comprising the claimed first filter. The Office Action is not specific as to what features of Figure 5 meet the claimed first filter circuit. Applicant accordingly submits that the Office Action rejection is incomplete and should either be withdrawn or better explained.

To the extent the Examiner is relying on the current mirrors 210 and 220 to meet the claim limitation, Applicant first notes that the claim requires filtering of signals received from the telecommunications line. Thus, only the current mirror 220 could meet this limitation and operate to filter received signals. Second, Applicant notes the presence of a resistive and capacitive circuit (for example, references 223 and 226) in the current mirror 220. Hiyoshi fails to discuss what type of filtering is

performed by this circuit in the current mirror 220 amplification operation with respect to received signals. However, even if it is assumed that this circuit would filter in the manner claimed, claim 25 still further recites that the filter circuit must also "scale signals appearing on the transmitter output" and "cancel the scaled signals at the receiver input with related signals appearing on the telecommunications line." There is no teaching or suggestion in Hiyoshi for the current mirror 220 (and more specifically its included filters) on the receive side operating to scale a transmit signal. In fact, there does not appear to be any circuit connection for supplying a transmit signal to the current mirror 220 for scaling. Still further, there is no teaching or suggestion in Hiyoshi for the current mirror 220 (and more specifically its included filters) on the receive side functioning to use a scaled transmit signal to cancel a related signal appearing on the telecommunications line. The current mirror 220 accordingly does not teach or suggest the claimed filter circuit.

Next, Applicant turns to the bridge circuit 11. While this circuit is connected to each of the transmitter output, telecommunications line and receiver input, and processes received signals, there is no teaching or suggestion in Hiyoshi for the bridge circuit 11 operating to filter, scale and cancel as claimed. As disclosed by Hiyoshi, the bridge circuit 11 merely operates to prevent leakage of the transmit signal to the receive terminals while allowing the transmit signal to be applied to the telecommunications line and further allowing the telecommunications signal to be applied to the receive terminals (see, col. 10, line 8 to col. 11, line 12). This disclosure fails to indicate that the transmit signal is scaled and applied in a canceling mode. In fact, the teaching is to the contrary in that Hiyoshi indicates that the transmit signal is blocked from being applied on the receive terminals. Blocking is a quite different operation from the claimed operation of scaling and canceling.

In view of the foregoing, Applicant respectfully submits that Hiyoshi is not relevant to the claimed invention. Still further, the Wortman reference fails to address the deficiencies of Hiyoshi with respect to the claim limitations of filtering, scaling and canceling. Withdrawal of the Section 103 rejection to claim 25 is requested.

Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hiyoshi in view of Wortman and Gilbert. For at least the reasons recited above with respect to claim 25, Applicant asserts that claim 27 is patentable over the art of record.

In view of the foregoing, Applicant submits that all pending claims are in condition for allowance.

Respectfully submitted,

JENKENS & GILCHRIST,
A Professional Corporation

Date: 5/2/04

Andre M. Szuwalski
Reg. No. 35,701

1445 Ross Avenue, Suite 3200
Dallas, Texas 75202-2799
(214) 855-4795
(214) 855-4300 (fax)